Story-telling based multi-user learning environments. She is also working closely with K-12 teachers to evaluate the effectiveness of the story-telling oriented approach to teaching science topics. Her work in Scaffolding architectures has led to two patent applications. He has authored close to twenty five publications in the fields of Educational Assessment and Educational Technology.
Between 1992 and 1997, she was a member (learning/cognitive technology specialist) of the CoVis Research Group at the University of Illinois. CoVis was a joint effort between the Institute for Learning Sciences at Northwestern University, the University of Illinois at Urbana-Champaign, specialists in hands-on learning at the Exploratorium Science Museum, and other collaborators. CoVis has focused on three areas - project-enhanced science learning, collaboration, and scientific visualization - as a means for transforming science education. She was also the primary architect of a JAVA based weather visualizer developed through a grant from NASA (under the HORIZON project) aimed at the promotion of earth and space sciences data through enhancements of and innovations in World Wide Web technology.
Between 8-91 and 5-94 she was a SuperQuest researcher with the Education & Training Group at the National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign.

Resumes of typical tutors:

1) A Teacher with certification in the State of Maryland and with a Master's degree in Math. With over eight years of teaching experience at the high school level.
2) A tutor with a M.S degree in Math from University of Kentucky, in the process of getting certified as a teacher. No prior class-room teaching experience, but six months of online tutoring experience.

In addition to math and reading, we are the only national provider with a highly effective program in writing.

3. PROGRAM EFFECTIVENESS

In New York City, during the academic year 2002-2003, we provided tutoring service in four middle schools in Community District # 8 (Bronx). All four schools demonstrated significant improvements in test results (average gain 18%) and one of these four schools achieved the best results in all of NY City schools in Regent –A Math test. (Statement from Superintendent Dr. Betty Rosa enclosed).

In Indianapolis Public Schools, during Summer 2003 (3 months of service) students gained on an average of 40% performance.

The combination of writing and Socratic Pedagogy (the only national provider to offer both is Socratic Learning) has also been validated by AVID (Advancement Via Individual Determination). Latino AVID kids attend four year college at twice the national average, African American AVID kids at one-and-one-half times the national average. In California, 82.4% of AVID students statewide are successfully completing the state's "a-g" university entry requirements compared to 35.6% for all California

students. In all schools we have tutored in, remarkable improvement in Writing skills has also been achieved.

Research Background:

The Socratic Learning tutoring program was developed by two researchers from the University of Illinois at Urbana-Champaign over a ten year period. Its premise is simple: by asking the right question, a tutor can guide the student in the right direction and at the same time carry out a non-intrusive assessment of student competency in a particular topic. Our use of Standards aligned Socratic Dialogs have been featured on CNN, USA Today, San Jose Mercury News and the Seattle Times.

The formal research framework behind "asking the right question" is called the "knowledge spaces" theory. It assumes that several paths exist between initial state ("0" or no mastery) to final state ("1" or full mastery) of knowledge acquisition. A Socratic Dialog guides a student from the initial state to the final state by asking a series of well designed questions. Knowledge Spaces is a highly effective cognitive model, developed at the University of California by a team of gifted software engineers and cognitive scientists, with the support of a multi-million dollar grant from the National Science Foundation. All aspects of the Knowledge Spaces theory, their effectiveness are addressed in:

Cosyn, E., & Thiéry N. (2000). A Practical Procedure to Build a Knowledge Structure. *Journal of Mathematical Psychology, 44*, 383-407.
Degreef, E., Doignon J.-P., Ducamp A., & Falmagne J.-C. (1986). Languages for the assessment of knowledge. *Journal of Mathematical Psychology, 30*, 243-256.
Doignon, J.-P. & Falmagne, J.-C. (1985). Spaces for the assessment of knowledge. *International Journal of Man-Machine Studies, 23*, 175-196.
Doignon, J.-P. & Falmagne, J.-C. (1999). *Knowledge Spaces.* Springer-Verlag.
Dowling, C.E. (1993). Applying the basis of knowledge space for controlling the questioning of an expert. *Journal of Mathematical Psychology, 37*, 21-48.
Koppen, M. (1993). Extracting human expertise for constructing knowledge spaces: An algorithm. *Journal of Mathematical Psychology, 37*, 1-20.

4.0 EVALUATION AND MONITORING

Socratic Pedagogy involves asking a lot of questions (as part of the Socratic dialogs). Each of these questions forms a "non-intrusive" assessment opportunity. At the end of each tutoring session, the tutors write a comprehensive session report. These reports identify what was taught during a tutoring session, what is the level of competency demonstrated by the student and a note on what should be taught next (such as continue with the same topic, review topic, move to next topic, etc.)
Approximately every two weeks (or at the end of each chapter in a book), the students are given a diagnostic test. The results of these tests (along with the full-copy of the test) are utilized to refine the tutoring process and the tutoring map.